QY-9263K Development Board

Hardware Manual

Version No.: 1.0

2008.07

QIYANG INTELLIGENT TECHNOLOGY CO., LTD
Copyright Reserved

Company Profile:

Hangzhou Qiyang Technology Co., Ltd. is located at the bank of the beautiful West Lake. It is a high and new technology enterprise which is specializing in R&D, manufacture and sell embedded computer main board with high performance, low power consumption, low cost, small volume, and provides embedded hardware solutions.

We Offer:

◆ Research & develop, manufacture and sell embedded module products which have independent intellectual property rights, and cooperate with TI, ATMEL, Cirrus Logic, Freescale, and other famous processor manufacturers. It has launched a series of hardware products, such as ARM development board, ARM core module, ARM industrial board, sound/video decoding transmission platform, supporting tools and software resources which support user for their next embedded design.

◆ We give full play to the technical accumulation in ARM platform and Windows CE, Linux, Android operating system for many users providing custom service (OEM/ODM), to realize embedded products into the market stably, reliably and quickly.

Tel:+86 571 87858811，+86 571 87858822
Fax: +86 571 87858822
Technology Support E-mail: support@qiyangtech.com
Website: http://www.qiytech.com
Address: 5F, Building 3A, No.8 Xiyuanyi Road, West Lake Science Park, Hangzhou, China
Post code: 310030

©2012 Qiyangtech Copyright

Catalogue

Ⅰ. Preface 4
1.1 Company Profile 4
1.2 Suggestion for Using QY-9263S single board computer 5
Ⅱ. System composition 6
2.1 Mainboard Resource: 6
2.2 Main board interface basic function 7
Ⅲ. Hardware Specification ..... 错误！未定义书签。
3.1 SDRAM ..... 错误！未定义书签。
3.2 DataFlash ..... 错误！未定义书签。
3.3 NandFlash ..... 错误！未定义书签。
3.4 USB ..... 错误！未定义书签。
3.5 Ethernet ..... 错误！未定义书签。
3.6 Audio ..... 错误！未定义书签。
3.7 LCD ..... 错误！未定义书签。
3.8 Matrix Keyboard ..... 错误！未定义书签。
3.9 PIO ..... 错误！未定义书签。
3.10 MISC ..... 错误！未定义书签。
3.11 CAN Bus ..... 错误！未定义书签。
3.12 RTC ..... 错误！未定义书签。
3.13 UART ..... 错误！未定义书签。
3.14 Power ..... 错误！未定义书签。
Ⅳ. Remark ..... 错误！未定义书签。

©2012 Qiyangtech Copyright

Ⅰ. Preface

1.1 Company Profile

Hangzhou Qiyang Technology Co., Ltd. is located at the bank of the beautiful West Lake. It is a high and new technology enterprise which is specializing in R&D, manufacture and sell embedded computer main board with high performance, low power consumption, low cost, small volume, and provides embedded hardware solutions.

We Offer:

◆ Research & develop, manufacture and sell embedded module products which have independent intellectual property rights, and cooperate with TI, ATMEL, Cirrus Logic, Freescale, and other famous processor manufacturers. It has launched a series of hardware products, such as ARM expanding board, ARM core module, ARM industrial board, sound/video decoding transmission platform, supporting tools and software resources which support user for their next embedded design.

◆ We give full play to the technical accumulation in ARM platform and Windows CE, Linux, Android operating system for many users providing custom service (OEM/ODM), to realize embedded products into the market stably, reliably and quickly.

©2012 Qiyangtech Copyright

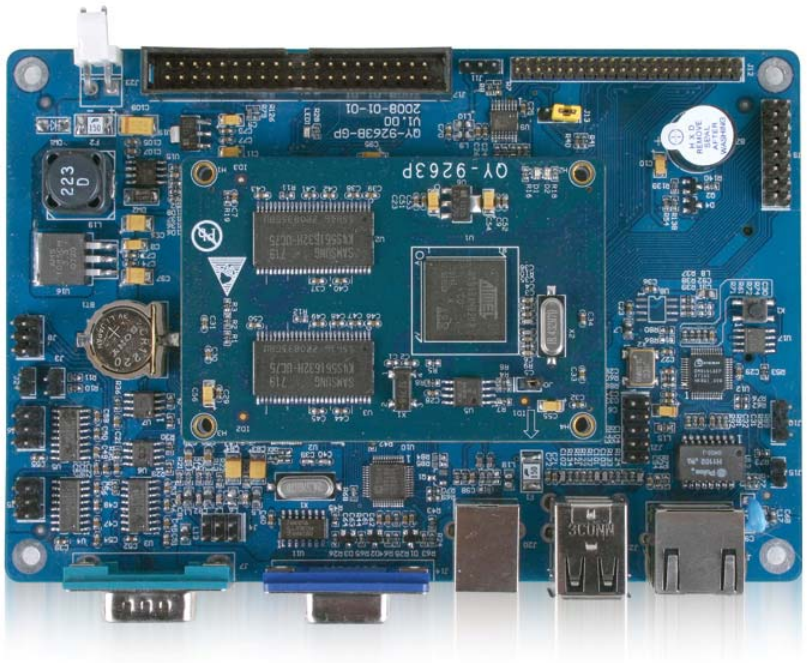
1.2 Suggestion for Using QY-9263K

1. Please read the instructions first, before using the single board computer;

2. Before using, please check the packing list and see whether there is a missing file in the CD;

3. Please understand the basic structure and composition of the development board, including the hardware resource allocation etc.;

4. If you need to develop on Linux system and burn program into the development board, in addition to this document, we also suggest reading another document ***QY-9263K Linux User Manual***.



Picture 1

©2012 Qiyangtech Copyright

Ⅱ. System composition

2.1 Mainboard Resource:

QY-9263K development board is divided into two parts: core board & back plane. Adopts 2 * 100 B to B standard socket to connect.

Products introduction :

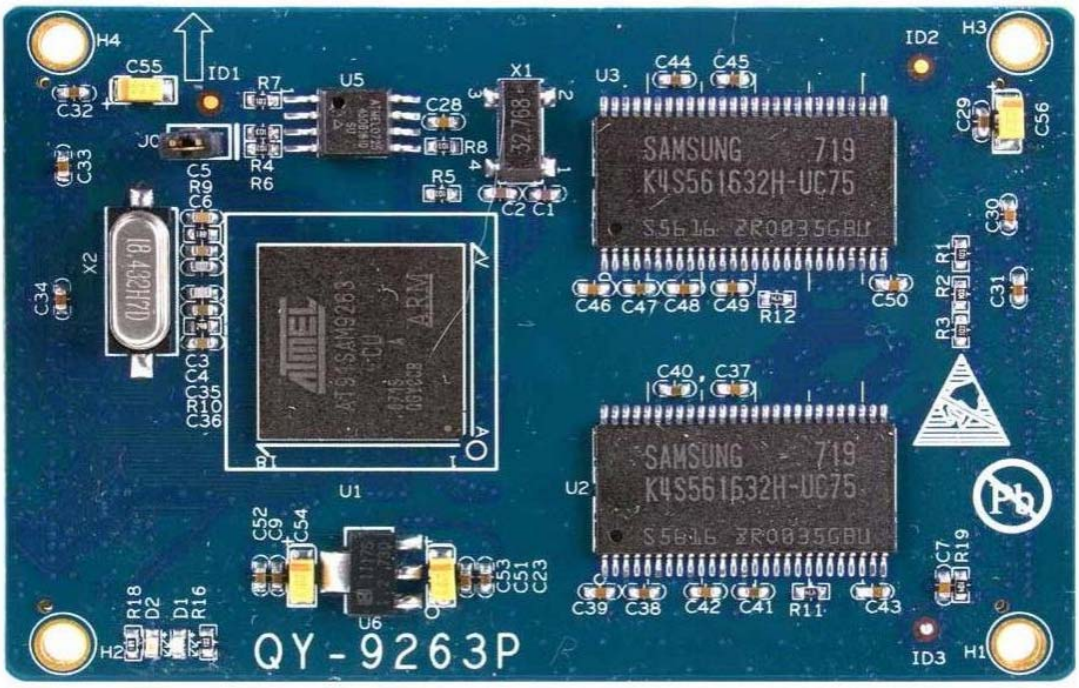
Chip Specification:	ATMEL AT91SAM9263,200MHz
Core:	ARM926EJ-S
SDRAM:	64MB
Flash:	128 MB NAND Flash ,2 MB Data Flash
OS:	Linux 2.6.30
External interface	
Storage	1 * IDE & CF Card
SD/MMC Card	1 * SD/MMC Card
USB	2 * USB2.0 Host,1 * USB2.0 Device
Debugging Port	1-ch RS232 Debugging port; 3-ch RS232 common serial port, 2-ch also can support RS485 serial port
LCD	Support 1-ch TFT-LCD interface, 3.5’-17’TFT-LCD ,resolution up to 2048x 2048
VGA	1 * VGA Interface
Touch Panel	4-wire resistive touch panel
Input Interface	8 * 8 matrix keyboard with RTC
CAN	Support CAN2.0A and CAN2.0B

©2012 Qiyangtech Copyright

Audio	AC97 Audio output, provide dual-track line input interface
LAN	10/100M Ethernet interface
Other	Reset circuit/ Real-time clock
Power	+12V , Support +6V～+25V wide range power supply
Power Consumption	≤2W
Mechanical and Environmental	
Size	147mm * 101.6mm
PCB Specification	6-layer
Operating Temperature	-20℃～+70℃
Relative Humidity	5%～95%,Non-Condensing；

2.2 Mainboard Interface

2.2.1 Core Board



picture 2

◆ATMEL AT91SAM9263,200MHz;

©2012 Qiyangtech Copyright

v64MB SDRAM,128MB NAND Flash,2MB Data Flash;

◆QY-9263K core board with high-precision, best electric performance and anti-interference;

◆Size: 80mm * 53mm, only a size of a business card，suitable for various embedded applications;

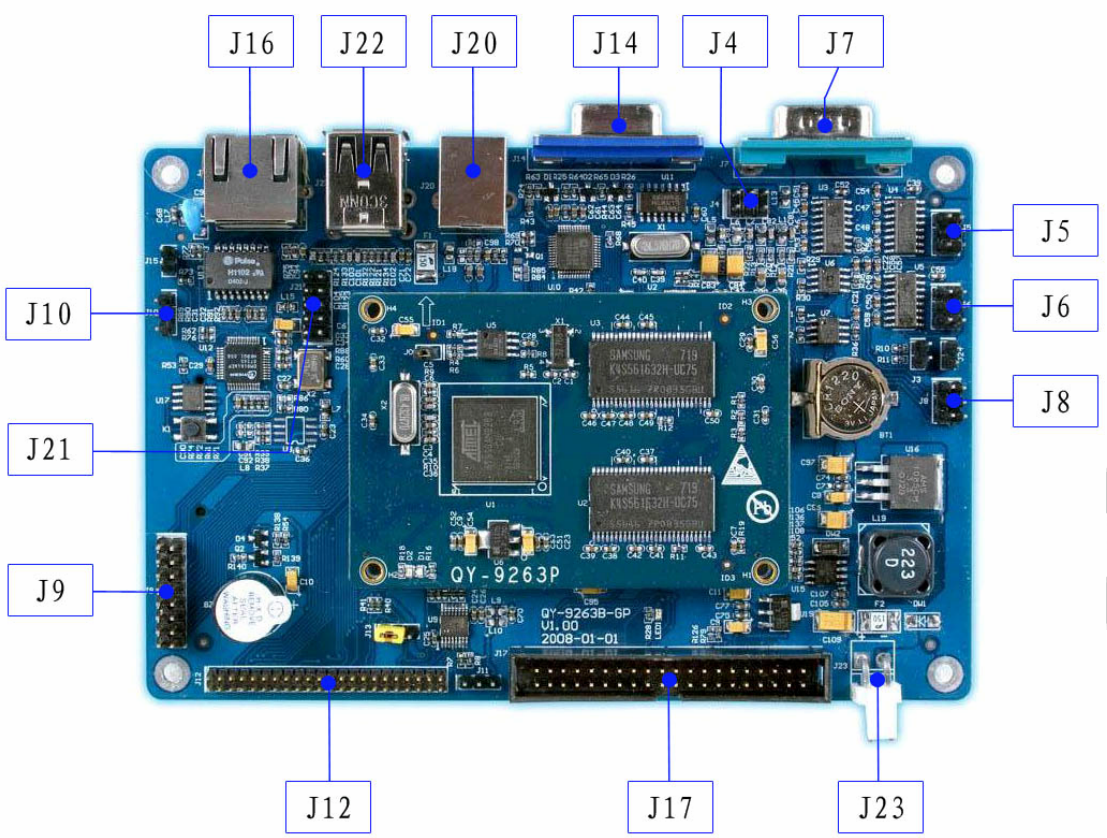
◆Core board are using 2 * 100 PIN B to B connector, go through 350℃, anti-shock test, which is high performance, suitable for using in industrial/commercial site.

◆Power: 3.3V power supply, low consumption

◆Offer reset circuit and watchdog.

©2012 Qiyangtech Copyright

2.2.2 Back Plane



picture 3

Interface Definition of Back Plane

Label	Name	Function	Illustration
J4	AUDIO	Audio Input/Output	For audio application
J5	COM2	5-wire serial port	Common serial port application
J6	COM3/4	3-wire serial port	Common serial port application
J7	Debugging UART	Download, Communication	Download program, develop UART communication
J8	RS485	RS485 Interface	RS485 Bus
J9	8*8 Matrix Keyboard	Matrix Keyboard Interface	Can be used as universal I/O
J10	CAN	CAN 2.0	CAN2.0A/B Protocol

©2012 Qiyangtech Copyright

J12	LCD	Extend LCD	Extend LCD function, with touch panel
J14	VGA	VGA video output	
J16	Ethernet	10/100M Ethernet	Program download, network communication application
J17	IDE	Connect to IDE device	Used for mounting IDE Bus device
J18	CF Card Socket(Back)	CF Card	Can extend storage application
J19	SD Card Socket(Back)	SD Card	Can extend storage application
J20	USB device	USB Device	Program download, USB communication
J21	JTAG	debugging	
J22	2 * USB host	USB Host	For USB Host Application
J23	Power	System supply	+6V~+23V wide range

J4 Pin Definition: AUDIO Interface

1	**LINE_INL**	**2**	**LINE_OUTL**
3	**LINE_INR**	**4**	**LINE_OUTR**
5	**GND_AUD**	**6**	

J5 Pin Definition: COM1 Interface

1	**RXD**	**2**	**CTS**
3	**TXD**	**4**	**RTS**
5	**GND**	**6**	

©2012 Qiyangtech Copyright

J6 Pin Definition: COM2/3 Interface

1	RX1	2	RX2
3	TX1	4	TX2
5	GND	6	

J8 Pin Definition: RS485

1	RS485-	2	RS485-
3	RS485+	4	RS485+
5	GND	6	

J9 Pin Definition:8 * 8 Matrix Keyboard Interface

1	X0	2	Y0
3	X1	4	Y1
5	X2	6	Y2
7	X3	8	Y3
9	X4	10	Y4
11	X5	12	Y5
13	X6	14	Y6
15	X7	16	Y7

J10 Pin Definition: CAN Interface

1	CANH
2	GND
3	CANL

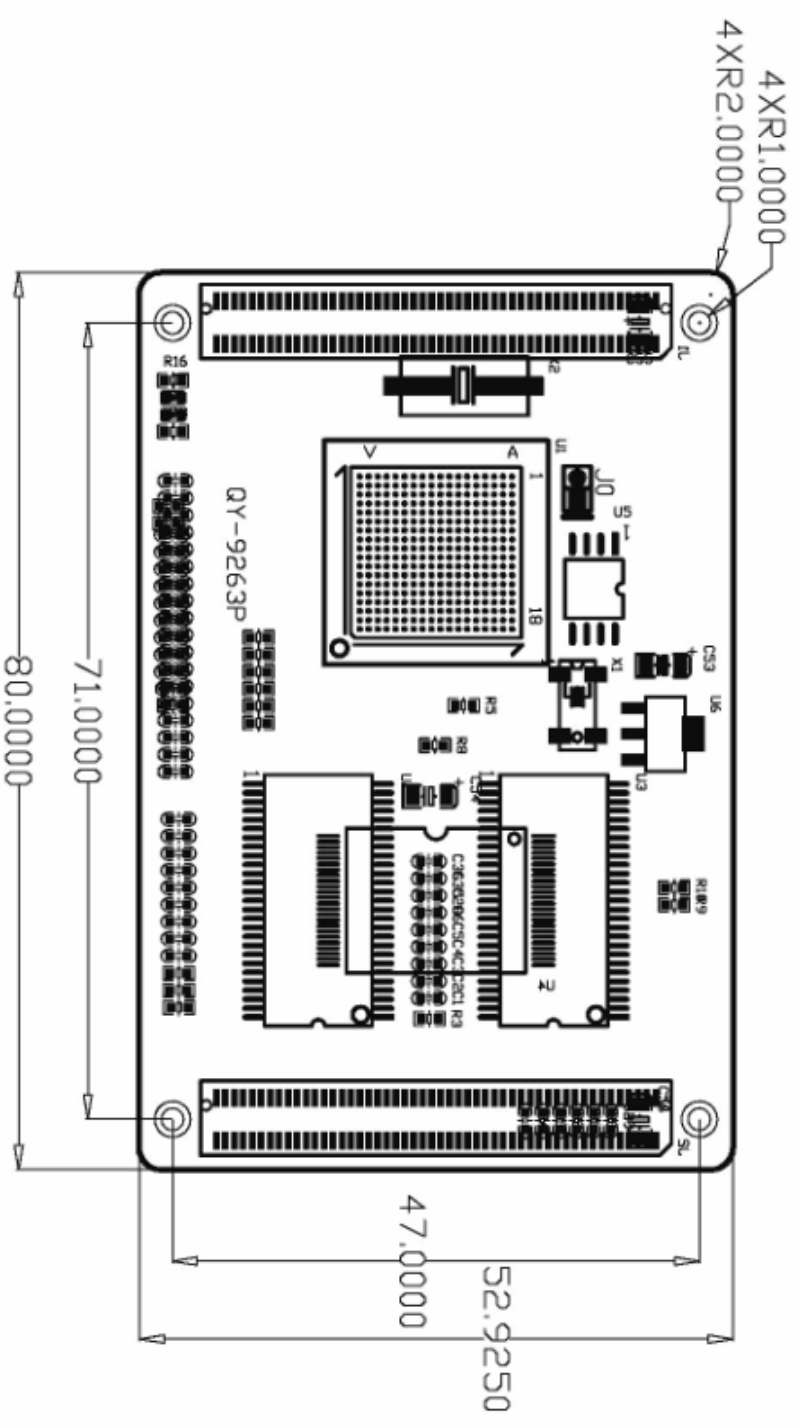
J12 Pin Definition: LCD Interface

©2012 Qiyangtech Copyright

1	GND	2	SPCLK
3	HSYNC	4	VSYNC
5	GND	6	LCD_R0
7	LCD_R1	8	LCD_R2
9	LCD_R3	10	LCD_R4
11	LCD_R5	12	GND
13	LCD_G0	14	LCD_G1
15	LCD_G2	16	LCD_G3
17	LCD_G4	18	LCD_G5
19	GND	20	LCD_B0
21	LCD_B1	22	LCD_B2
23	LCD_B3	24	LCD_B4
25	LCD_B5	26	GND
27	LCD_DE	28	VDD
29	VDD	30	R/L
31	U/D	32	
33	BRIGHT	34	LCD_DE
35	GND	36	nRESET
37	TSC_SXP	38	TSC_SYP
39	TSC_SXM	40	TSC_SYM
41	TSC_XP	42	TSC_YP
43	TSC_XM	44	TSC_YM

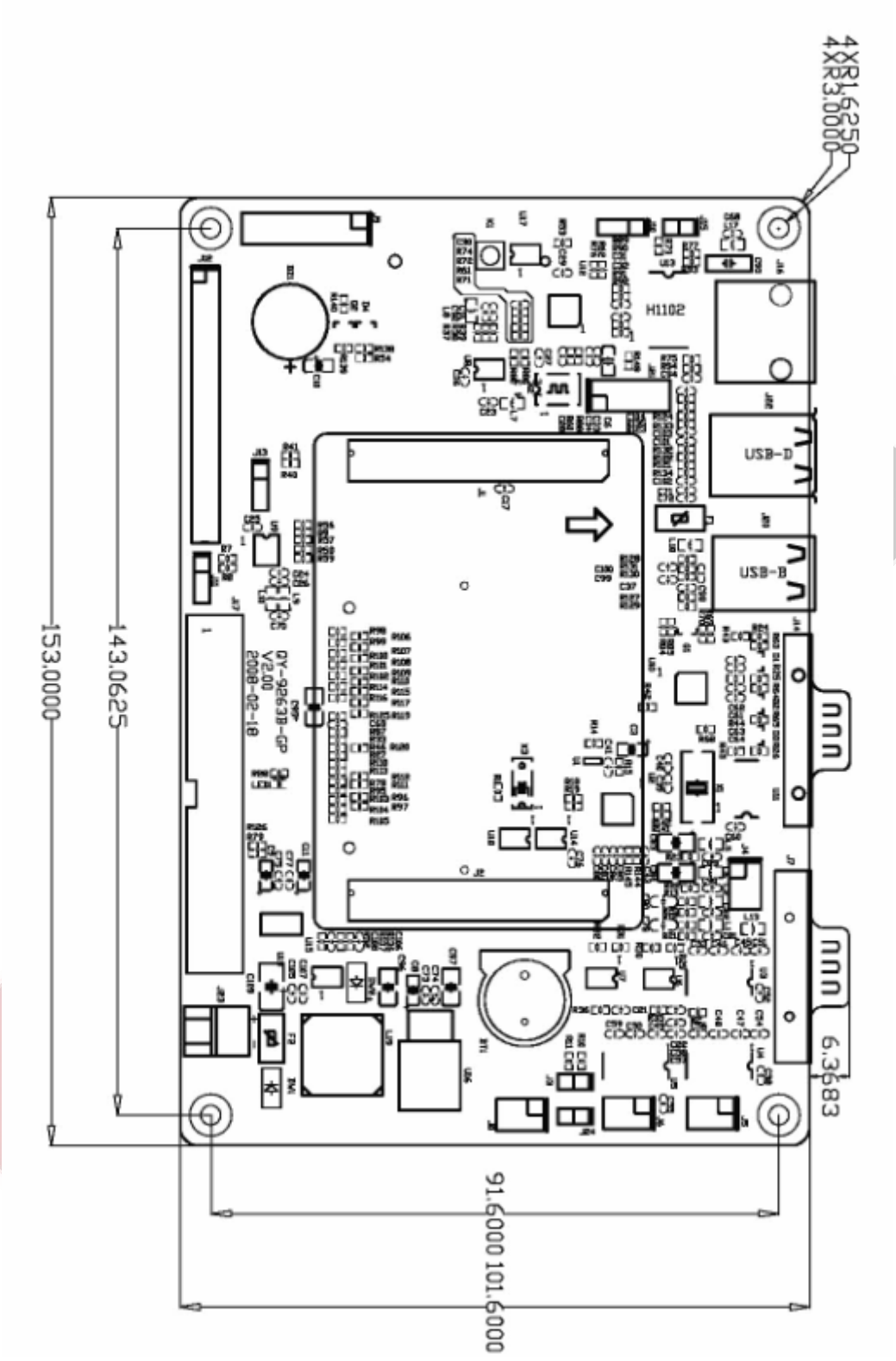
©2012 Qiyangtech Copyright

2.3 Mainboard Specification



picture 4

©2012 Qiyangtech Copyright



picture 5

©2012 Qiyangtech Copyright

Ⅲ. Remark:

1. Before connect to LCD, confirm LCD power specification.

2. Please use the original connecting accessories, avoid damaging the main board.

3. We ensure offering communication technology support through E-mail, telephone for lifelong technical support service.

4. We ensure offering 6 months repair service for free, if malfunction occurs in warranty because of quality problem, contact our retailer or our company with purchase receipt in warranty period, we will repair or replace it.

5. Under these circumstances, we do not offer repair for free:

● Over warranty time;

● Do not have purchase receipt;

● Liquid inlet, Damp or Mold;

● Malfunction and damage is not due to product quality but drops, intense sharking, arbitrarily modify, disoperation after purchase;

● Damage of force majeure.

6. We reserve intellectual property for the software and hardware technical data of IAC-335X-Kit; users can only use them for teaching, testing, researching. Shall not be engaged in any commercial purpose. Shall not distribute them on the Internet. Shall not intercept, modify them to tamper copyright.

7. We accept batch order; we can offer technical support and service.

©2012 Qiyangtech Copyright

Hangzhou Qiyang Intelligent Technology Co., Ltd

Tel: 86-571-87858811 / 87858822

Fax: 86-571-89935912

Technology Support：0571-89935913

E-MAIL：supports@qiyangtech.com

Website： http://www.qiytech.com

Address：5F, Building 3A, NO.8 Xiyuanyi Road, West Lake Science Park, Hangzhou, China

Post Code：310030

©2012 Qiyangtech Copyright